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**ON A COLLECTION OF BIRDS AND MAMMALS FROM MOUNT SANHEDRIN,
CALIFORNIA.**

BY WITMER STONE.

(WITH FIELD NOTES BY A. S. BUNNELL.)

The Academy of Natural Sciences of Philadelphia has recently secured a valuable collection of Californian birds and mammals, formerly the property of Mr. A. S. Bunnell, of Berkeley. Mr. Bunnell collected most of his specimens in the neighborhood of Berkeley and about Mount Tallac in the Sierras, both of which localities have received considerable study of late years, especially with regard to their avifauna. The most interesting portion of the collection, however, comes from Mount Sanhedrin, in Mendocino county, and as practically nothing has been published upon the fauna of this region, it seems desirable to present the results of Mr. Bunnell's work. In reply to my request for information as to the nature of the country, he has very kindly furnished me with the following account, which I quote in full.

"I was located at Lierlie's ranch, 2,100 feet elevation, which is a cluster of cottages on the north side of a range of spruce-covered hills that rise from Thomas creek, a tributary of Eel river. On the opposite side of this creek from the ranch rises Mount Sanhedrin, which attains an elevation of about 5,000 feet. The whole country is covered with Douglass Spruce and Bull Pine forests on the north sides of the hills, with a few cedars in the shady parts. In more level places there are madronos and black oaks, and on exposed sunny slopes either manzanita and other brush or else grassy clearings. Where the forests are not deep there is much underbrush, and along Thomas creek are alders and willows. The creek is a wild trout stream about twenty feet in width, tumbling throughout its length, while Eel river is about thirty yards wide. There is an abundance of water, although the region lies east of the humid coast belt, and there are no redwoods to be found.

"The ranch is in the transition zone, apparently nearly on the boundary, as one can hear at the same time the songs of the Russet-back and Dwarf Hermit Thrushes and the calls of the Valley Quail and Plumed Partridge. Mount Sanhedrin runs up into the Hudsonian, and on its top, where the snow disappears in May, are found the Thick-billed Sparrow, Golden-crowned Kinglet and Mountain Chickadee. The top

of the mountain is mostly covered with low snow-crushed spiny brush, while White-barked Firs grow on the north side."

The specimens were collected on two trips made in 1897 and 1899, during the months of May, June and July.

MAMMALS.

Twenty-one species of mammals were secured by Mr. Bunnell, and eleven others are reported by him as occurring in the vicinity. For the identification of the bats I am indebted to Mr. J. A. G. Rehn, while Mr. W. H. Osgood has kindly examined several of the other species and compared them with specimens in the collection of the U. S. Biological Survey. Species reported by Mr. Bunnell but not represented in the series are marked with an asterisk.

Citellus grammurus douglasii (Richardson). Columbian Spermophile.

Two males. June 11 and July 14. Central shoulder patch jet black, and sides very bright silvery gray.

Eutamias hindsi (Gray). Hinds' Chipmunk.

A male and female, May 30 and June 28, are in the dull pelage, but another pair secured July 8 have patches of bright rusty hairs cropping out on the back and sides.

Sciurus douglasii albolimbatus Allen. Sierran Chickaree.

One female example, June 30, which seems absolutely identical with central Sierra specimens and shows no tendency toward *mollipilosus* of the redwood belt.

Sciurus griseus Ord. Oregon Gray Squirrel.

Six specimens, June 1 to July 24.

Reithrodontomys longicauda (Baird).

One specimen, a female, June 11. Measurements as follows: Length 115 mm., tail 37 (partly lost), hind foot 19, ear 15. Apparently identical with Berkeley specimens.

Peromyscus gambelii (Baird). White-footed Mouse.

Represented by a full series of specimens.

Peromyscus truei (Shufeldt). Big-eared Mouse.

Four adults in tawny pelage, May 29 to June 14; two probably younger, June 13 and 14, much less tawny, and five young, May 29-June 14, in mouse gray pelage, some of them with buff patches on the sides, showing the molt into the preceding stage.

I was at first inclined to think that some of these were *P. boylii*, but comparison with specimens of the latter, kindly loaned by Mr. D. G.

Elliot from the collection of the Field Columbian Museum, convinces me that they all belong to the present species.

Neotoma fuscipes Baird. Round-tailed Wood Rat.

Two adults and two young, June 13-15. These seem identical with Berkeley specimens, and it is noticeable that one from each locality has a partly bicolor tail. In this and other respects this rat seems subject to much individual variation, and I cannot but think that some of the recently established forms which do not seem to have any distinctive geographic range will prove to have been based upon unstable characters.

Microtus californicus (Peale). California Vole.

One specimen, identical with those from Berkeley.

Phenacomys longicaudus True.

One female example of this rare mouse was found dead in a road, June 30, 1899 (No. 11,625, Coll. Acad. Nat. Sci. Phila.). The occurrence of this species so far south of its previously known habitat in Oregon is of particular interest, apart from the fact that this is, so far as I am aware, only the third specimen that has been secured.¹

In color this specimen is pale rusty, with an admixture of grayish-white hairs, especially about the head and shoulders, and with long rather inconspicuous black hairs scattered over the whole upper surface, beneath grayish-white with the plumbeous bases of the hairs showing through, feet pale rusty above, grayish-white below, tail dark brown with a mixture of silvery white hairs below which make it appear indistinctly bicolor.

Length 170 mm., tail 70, hind foot 19.

The skull resembles that of *P. preblei* (the only one available for comparison) in general appearance, but is relatively narrower. Basilar length 20 mm., zygomatic breadth 14, occipito-nasal length 24, length of nasals 7. The teeth have been described in detail by Mr. Miller. Those of the present specimen are considerably worn.

Thomomys bottæ (Eyndoux and Gervais). California Gopher.

Three specimens.

Lepus bachmani Waterhouse. Bachman's Rabbit.

Two specimens, a female and young male, July 6 and June 14.

***Lepus californicus** Gray. California Jack Rabbit.

Jack rabbits are reported as abundant in Mr. Bunnell's notes.

¹ Cf. Miller, *Proc. Biol. Soc. Wash.*, XI (1897), p. 85.

Odocoileus columbianus (Richardson). Columbia Black-tailed Deer.

Mr. Bunnell states that black-tailed deer are abundant, but no mule deer are to be found. Old elk horns have sometimes been found in the region.

Myotis lucifugus longicrus (True).

Male. July 15.

Myotis californicus caurinus Miller.

Three males and two females. May 26 to July 8.

Myotis evotis (H. Allen). Big-eared Bat.

Male. July 25.

Lasionycteris noctivagans (LeConte). Silver-haired Bat.

Three examples. June 4 to 16.

Pipistrellus hesperus (H. Allen).

Female. July 21.

Eptesicus fuscus (Beauvais). Large Brown Bat.

Male and female. July 21 and 25. These specimens are identical with topotypes of *E. fuscus* from Philadelphia.

***Mephitis occidentalis** Baird. Large Skunk.

Skunks are reported as "very common."

Spilogale phenax Merriam. Little Skunk.

Also "very common." One specimen secured seems to be typical of this species.

***Lutreola vison energumenos** Bangs? Pacific Mink.

Minks are "common."

***Mustela caurina** Merriam? Pacific Marten.

Martens are reported as occurring sparingly.

***Lutra canadensis** Schreber. Otter.

"Fairly common."

***Putorius xanthogenys** (Gray).

"Brindled weasel common," presumably this species.

Procyon psora Merriam? Raccoon.

"Common." One specimen obtained.

***Ursus americanus** Pallas. Black Bear.

"A few, especially on the mountain."

***Canis ochropus** Eschz.? Coyote.

"A few are found."

***Urocyon californicus** (Mearns). California Gray Fox.

"Common."

**Felis oregonensis* Rafinesque. Oregon Puma.

"Fairly common," presumably this form.

**Lynx* sp. Wildcat.

"Common."

BIRDS.

The collection of birds contains representatives of fifty-six species, all of which, from the time of capture, may be regarded as breeding. To these Mr. Bunnell has added thirty-three species observed, but not secured. These are marked with an asterisk. The collection has been carefully identified with reference to subspecific differences, as the locality is to some extent on the borderland of the humid coast, the Sierran and the Upper Sonoran faunas. The field notes are entirely from Mr. Bunnell's journal.

**Aix sponsa* (Linn.). Wood Duck.

Occurs on Eel river.

**Ardea herodias* Linn. Great Blue Heron.

On Eel river.

Actitis macularia (Linn.). Spotted Sandpiper.

On Eel river.

Lophortyx californicus vallicola (Ridgw.). Valley Partridge.

Abundant. Birds are quite typical.

Oreortyx pictus plumiferus (Gould). Plumed Partridge.

Abundant, range overlaps that of the preceding.

**Dendragapus obscurus fuliginosus* Ridgw. Sooty Grouse.

Numerous, especially in the spruce forests of the higher ridges.

**Zenaidura macroura* (Linn.). Mourning Dove.

Very common, especially at deer salt licks.

**Cathartes aura* (Linn.). Turkey Vulture.

Everywhere, collecting by the dozen on dead trees to roost.

Accipiter velox (Wils.). Sharp-shinned Hawk.

Young hatched July 1, in nest in small spruce in timber.

Accipiter cooperi (Bonap.). Cooper's Hawk.

Trapped in chicken yard.

Accipiter atricapillus striatulus Ridgw. Western Goshawk.

Male, August 1, 1899.

**Buteo borealis calurus* (Cass.). Western Redtail.

Abundant.

**Falco sparverius phalæna* (Lesson) Desert Sparrow Hawk.

Not common.

**Haliæetus leucocephalus* (Linn.). Bald Eagle.

Rare.

**Aquila chrysaetos* (Linn.). Golden Eagle.

Rare.

Otus asio bendirei (Brewster) California Screech Owl.

Abundant. Young hatched June 29.

**Asio magellanicus* subsp. Horned Owl.

In spruce woods.

Glaucidium gnoma californicum (Sel.). California Pigmy Owl.

Fairly common. Note a prolonged trill. It sometimes kills quail, and one was observed being mobbed by a large mixed flock of birds.

**Ceryle alcyon* (Linn.). Belted Kingfisher.?

On Eel river.

Dryobates villosus hyloscopus (Cab.). Cabanis's Woodpecker.

Numerous on oaks and spruces. The specimens approach *harrisii*, but are nearer to *hyloscopus*.

Dryobates pubescens turati (Malherbe). Willow Woodpecker.

Numerous. Two specimens obtained show a decided tendency toward *gairdneri*. In one the tertials are unspotted, in the other those of one side are spotted, while those of the other are not. The superciliary stripe and back are pure white.

Sphyrapicus ruber (Gmel.). Red-breasted Sapsucker.

More common on the higher ridges. The only specimen obtained is typical.

Ceophlæus pileatus abieticola Bangs. Northern Pileated Woodpecker.

Not common. The specimen obtained is small, perhaps indicating a diminution in size, such as we find in the Southern States on the Atlantic coast. It is a female and measures wing 8.75 ins., culmen 2 ins. A female from Vernon, B. C., shows wing 9.20, culmen 2.25, while one from Alva, Florida, has wing 8.80, culmen 1.94.

**Melanerpes formicivorus bairdi* Ridgw. Californian Woodpecker.

Rather common.

Colaptes cafer collaris (Vig.). Red-shafted Flicker.

A few specimens are a trifle darker than other examples in the Academy's collection, but are not *saturation*.

Phalænoptilus nuttalli californicus Ridgw. Dusky Poor-will.

In scrub oak brush on high ridges. Two eggs found on a bare rock, July 23.

****Calypte anna*** (Less.). Anna's Hummingbird.

Common.

****Selasphorus alleni*** Hensh. Allen's Hummingbird.

Common.

Tyrannus verticalis Say. Arkansas Kingbird.

Numerous, nesting in the oaks.

Myiarchus cinerascens (Lawr.). Ash-throated Flycatcher.

Common, in small groves.

****Sayornis nigricans*** (Sw.) Black Phoebe.

Along creek and river.

Nuttallornis borealis (Sw.). Olive-sided Flycatcher.

In rather thinly wooded localities, perching on top of small firs.

Contopus richardsonii (Sw.). Western Wood Pewee

In open timber or clearings.

Empidonax difficilis Baird. Western Flycatcher.

Occurs with the last.

Aphelocoma californica (Vig.). California Jay.

Fairly numerous.

Cyanocitta stelleri carbonacea Grinnell. Coast Jay.

Range overlaps that of the preceding. All the specimens are very brown on the back, but I attribute this to the wear of the plumage. Altogether the specimens are nearest to *carbonacea*, though they exhibit much variation in the development of the frontal spots. In one they are barely appreciable, in two moderately developed and blue, while in one they are strongly developed and tipped with white.

****Corvus brachyrhynchos hesperis*** Ridgw. California Crow.

Rare.

****Sturnella magna neglecta*** (Aud.). Western Meadow Lark.

Does not range above Potter Valley.

Agelaius phoeniceus caurinus Ridgw. Northwestern Redwing.

Abundant in a small tule swamp, where they return every night to roost and fill the evenings with their notes.

Euphagus cyanocephalus (Wagl.). Brewer's Blackbird.

Abundant in oaks and swamps, nesting in the former.

Icterus bullocki (Sw.). Bullock's Oriole.

Common, nesting in the oaks.

Carpodacus purpureus californicus Baird. California Purple Finch.

A few.

**Carpodacus mexicanus frontalis* (Say). House Finch.

A few.

Astragalinus psaltria (Say). Arkansas Goldfinch.

Common.

Spinus pinus (Wils.). Pine Siskin.

Common. Habits similar to the goldfinch.

**Passer domesticus* (Linn.). English Sparrow.

Reached Potter Valley in 1900.

**Chondestes grammacus strigatus* (Sw.). Western Lark Sparrow.

Only in Potter Valley.

Spizella socialis arizonæ Coues. Western Chipping Sparrow.

Everywhere.

Junco oregonus thurberi (Anthony). Thurber's Junco.

Common, especially on Mount Sanhedrin.

Melospiza cinerea samuelis (Baird). Samuel's Song Sparrow.

Nest in swamps. Only one specimen secured which is rather more rusty than *samuelis*, and possibly inclines toward *cleonensis*.

**Passerella iliaca megarhyncha* (Baird). Thick-billed Sparrow.

Only on the top of Mount Sanhedrin and adjoining ridge, in the brush.

**Oreospiza chlorura* (Aud.). Green-tailed Towhee.

Associated with the preceding species.

Pipilo maculatus megalonyx (Baird). Spurred Towhee.

Common in brush. Specimens are somewhat intermediate, the bill is distinctly narrower than in true *oregonus*, and there is more white above and on the outer rectrices. Compared with *megalonyx* from Arizona, there is not nearly so much white and the brown is decidedly paler.

**Pipilo fuscus crissalis* (Vig.). California Towhee.

Common.

Zamelodia melanocephala (Sw.). Black-headed Grosbeak.

Very common, and destructive to blackberry crop.

Cyanospiza amœna (Say). Lazuli Bunting.

Common.

Piranga ludoviciana (Wils.). Louisiana Tanager.

Very common in spruces and oaks.

**Hirundo erythrogaster* Bodd. Barn Swallow.

Only observed in Potter Valley.

Petrochelidon lunifrons (Say). Cliff Swallow.
Common.

**Iridoprocne bicolor* (Vieill). Tree Swallow.
A few.

**Tachycineta thalassina lepida* (Mearns).
Common, full-grown young July 22.

Riparia riparia (Linn.). Bank Swallow.
On Eel river.

Vireo gilvus swainsonii (Baird). Western Warbling Vireo.
Common.

Vireo solitarius cassinii (Xantus). Cassin's Vireo.
Common.

Vireo huttoni Cass. Hutton's Vireo.
One specimen, July 8.

Helminthophila rubricapilla gutturalis Ridgw. Calaveras Warbler.
Rather numerous. Found nest under the bank of a stream.

Helminthophila celata lutescens (Ridgw.). Lutescent Warbler.
One secured June 5.

Dendroica aestiva (Gmel.). Yellow Warbler.
Common.

**Dendroica auduboni* (Towns.). Audubon's Warbler.
Only on Mount Sanhedrin.

Dendroica nigrescens (Towns.). Black-throated Gray Warbler.
Common.

Geothlypis tolmiei (Towns.). Macgillivray's Warbler.
Abundant.

Icteria virens longicauda (Lawr.). Long-tailed Chat.
Common and often heard singing at night.

Cinclus mexicanus Sw. American Dipper.
Very common on Eel river and Thomas creek. Many full-grown young in June, and by this month the old birds have stopped singing, simply making a loud rattle.

**Thryomanes bewickii spilurus* (Vig.). Vigor's Wren.
Fairly common.

Troglodytes ædon parkmani (Aud.). Parkman's Wren.
Fairly common.

Certhia familiaris occidentalis Ridgw. California Creeper.
Common.

Sitta carolinensis aculeata (Cass.). Slender-billed Nuthatch.

Common.

Parus gambeli Ridgw. Mountain Chickadee.

Only on the mountain.

Parus rufescens Towns. Chestnut-backed Chickadee.

Common about the ranch. Four specimens too worn for satisfactory comparison. They seem, however, to be fairly intermediate in character between *rufescens* and *neglectus*.

***Chamæa fasciata** subsp.? Wren Tit.

A few in the brush.

Psaltiriparus minimus (Towns.). Bush Tit.

A few in the manzanita. One specimen obtained seems to be true *minimus*.

Regulus satrapa olivaceus Baird. Western Golden-crowned Kinglet.

Some young observed in the firs on Mount Sanhedrin and a specimen secured.

Polioptila cœrulea obscura Ridgw. Western Gnatcatcher.

Not common.

***Hylocichla ustulata** (Nutt.). Russet-backed Thrush.

Edge of timber and about the house.

***Hylocichla guttata nana** (Aud.). Dwarf Hermit Thrush.

In high timber. Sings all day, but the song is not so beautiful as that of the Sierran bird.

Merula migratoria propinqua Ridgw. Western Robin.

Common, especially on Mount Sanhedrin.

***Sialia mexicana occidentalis** (Towns.). Western Bluebird.

Common at a little lower elevation, but rare about the ranch.

***Sialia arctica** Sw. Mountain Bluebird.

Only on Mount Sanhedrin. Nests in holes in trees.